

CROTALUS LUCIFER, B. and G. Head subcircular or elliptical, nearly one inch and a quarter in length, covered on the vertex with very small and polygonal scales, elliptical and slightly carinated on the occipital region. One large supra orbital scutella obliquely striated. Eyes proportionally small, ten large anterior orbital plates; the upper one, which is the longest, is polygonal, whilst the lower one is triangular. The rostral plate is rather small, pointed above, higher than broad and pentagonal in form. The general color is reddish brown above, deeper along the dorsal line than on the sides, yellowish beneath. For two-thirds of the length there exists on the back a series of subcircular white rings lined internally with a narrow, black line. There are on the sides a series of irregular blotches which extend to the belly. The posterior third of the body is alternately semi-annulated above with black and yellow, the yellow, however, being much narrower than the black.

From Oregon and California.

EMYS MARMORATA, B. and G. The shape of the shell seen from above is regularly elliptical, slightly concave anteriorly, with a small notch behind. It is rather depressed and provided with a slight dorsal keel. Ventral shield rounded in front, openly concave behind. The tail is very slender and tapering. The posterior nails are stouter than the anterior ones and very much arched. The color is yellowish brown marbled with black.

The largest specimen under examination measures four inches in length from the tip of the snout to the end of the tail; the shell itself being only two inches and three-eighths in length and a little over two inches in width.

From Puget Sound.

The Committee on Dr. Hallowell's descriptions of new Reptiles, reported in favor of publication in the Proceedings.

Descriptions of new Species of Reptiles inhabiting North America.

BY EDWARD HALLOWELL, M. D.

TROPIDONOTUS RHOMBIFER.

Sp. Char. Head elongated, depressed, slightly swollen at the temples; a series of dark colored rhomboid spots upon the back, presenting the form of triangles, their apices posteriorly and anteriorly touching each other; a row of dark colored transverse bars upon the sides, uniting with the lateral inferior extremities of the rhomboid spots upon the back; a series of dark colored bands upon the tail; abdomen and under part of tail more or less maculated; scuta very strongly carinated: 25 rows of carinated scales; abdominal scuta 142; sub-caudal 70.

Dimensions. Length of head $1\frac{1}{2}$ inches (Fr.); greatest breadth posteriorly 10 lines; length of body 2 ft.; of tail $6\frac{1}{2}$ inches; total length 2 ft. 8 inches.

Habitat. Arkansas river and its tributaries, near the northern boundary of the Creek Nation; found abundantly on the borders of streams. Dr. Woodhouse observed one with many young on one of the sand banks of the Arkansas river.

TROPIDONOTUS TRANSVERSUS.

Sp. Char. Head large, swollen at the temples, convex posteriorly, flattened between the orbits, depressed in front; a series of subquadrate dark colored blotches, thirty-six or thirty-seven in number, along the back; a transverse row of oblong bars along the sides, their upper margins alternating with the inferior margins of the dorsal blotches; scales strongly carinated, 23 rows; abdominal scuta 144; sub-caudal 78.

Dimensions. Length of head 12 lines; greatest breadth 7; length of body 1 ft. (Fr.) 5 inches 7 lines; length of tail 6 inches; total length 2 ft.

Habitat. Creek boundary, found near the banks of the Arkansas and its tributaries.

Remarks. In *Tropidionotus taxis pilotus* the bars upon the back are much wider apart than in the above species, and it has but two posterior ocular plates; the arrangement of the temporal plates is also different; the frontal plate is much larger, and it has thirty-one rows of scales. *Tropidionotus taxis pilotus* is remarkable for its great size, being perhaps larger than any of our known water serpents; *transversus* is a much smaller animal. The markings upon the back and sides correspond in some degree with Say's description of *Coluber calligaster*, but the scales in *C. calligaster* are smooth. The latter animal is most probably the one well known as *Col. eximius*.

PHRYNOSOMA PLANICEPS.

Sp. Char. Head more compressed, longer and broader than in *P. cornutum*; nostrils within the supraciliary ridge; upper jaw bordered posteriorly by a row of pointed spines; central spine of the crown separated from the two adjacent spines by a wide interval; front part of head furrowed in the centre; scales of chin of nearly equal size; abdominal scales smooth or indistinctly carinated; tail longer than in *cornutum*, and less suddenly tapering to a point; ground color of animal light yellow or ash color; (brown mingled with yellow in *cornutum*.)

Dimensions. Length of head 9 lines; greatest vertical measurement 7 lines; breadth posteriorly, including spines, 1 inch 2 lines; length of body to vent 3 inches; length of tail 1 inch 7 lines; length of humerus 7 lines; of fore arm $6\frac{1}{2}$; of hand to extremity of longest finger, including nail, $7\frac{1}{2}$ lines; length of thigh 9 lines; of tibia 9 lines; of foot to extremity of longest toe nail $9\frac{1}{2}$ lines; total length 5 inches 4 lines.

Habitat. Western Texas, near the Rio Grande.

SCELOPORUS MARMORATUS.

Sp. Char. Four plates behind the rostral and between the nostrils, the two first more or less linear; six plates upon the frontal region; behind these, five plates surrounding one which is pentagonal; posterior to these, midway between the supraciliary ridges, a single large hexagonal plate (intraorbital;) snout rather pointed, more narrow than in *delicatissimus*; body slender; scales bipunctate posteriorly.

Dimensions. Length of head $6\frac{1}{2}$ lines; greatest breadth 4 lines; length of neck and body to vent 1 inch 5 lines; length of tail 2 inches $10\frac{1}{2}$ lines; length of humerus 3 lines; of fore arm 3 lines; length of hand to extremity of longest finger 4 lines; length of thigh 5 lines; of tibia 5 lines; of foot to extremity of longest toe 7 lines; circumference of body 14 lines; total length 4 inches 10 lines.

Habitat. San Antonio, Texas.

SCELOPORUS DELICATISSIMUS.

Sp. Char. Four plates behind the rostral and between the nostrils; the two first much smaller than the latter; nine plates upon the frontal region, in two rows (four in front and five posteriorly;) behind these five plates without the central pentagonal one above described; snout somewhat obtuse; body more slender than that of *marmoratus*; scales bipunctate posteriorly.

Dimensions. Length of head 6 lines; greatest breadth 4 lines; length of neck and body to vent 1 inch 5 lines; length of tail 3 inches 2 lines; length of humerus 3 lines; of fore arm 3 lines; of hand to extremity of longest finger 4 lines; of thigh 4 lines; of tibia 5 lines; of foot to extremity of longest toe $7\frac{1}{2}$ lines; total length 5 inches 1 line.

Habitat. San Antonio, Texas.

PSAMMOPHIS FLAVI-GULARIS.

Sp. Char. Head long, superior and inferior marginal outline of cranial portion slightly convex; temples depressed; body robust; color light brown or fuscous above; chin, throat, abdomen, and under part of tail yellow; 17 rows of scales; abdominal scuta 130; sub-caudal 97.

Dimensions of largest specimen. Length of head 1 inch $6\frac{1}{2}$ lines; greatest breadth 9 lines; length of body 3 ft. 5 in. 7 lines; of tail 9 inches (mutilated); greatest circumference 3 inches 2 lines.

Remarks. The animal above described differs from the *Psammophis flagelliformis*, in being more robust, and in its coloration; all the specimens brought by Dr. Woodhouse being of a light brown or olive color above, and of a yellow straw color beneath. The specimen of *flagelliformis* in the collection of the Academy corresponds with the description of Prof. Holbrook, who makes the following observations in regard to its color; "The superior surface of the head and neck and nearly one half of the body, is raven black, gradually becoming green on approaching the tail, which is of a very light brown or tawny color; the scales on the tail are rendered conspicuous by their dark margins. The inferior surface of the neck and anterior part of the abdomen is bluish slate color, the posterior part white clouded with brown; some parts of the abdomen white and shining, as well as the inferior surface of the tail. This snake, however, varies in color or rather in shade. Bartram has seen them of a cream color, clay colored, and sometimes almost white, but always raven black near the head." The *Psammophis flagelliformis* appears to be rare, Prof. Holbrook having seen but one specimen during a seven years' search; and Major Le Conte, who resided a long time in Georgia, informs me that he also has seen but one. The present species, according to Dr. Woodhouse, is very abundant where he discovered it—namely, in the sandy region reaching from the frontiers of Texas to the Creek Territory, and designated by a strip of timber extending across it. The specimen under consideration appears also to differ from *flagelliformis* in the form of the scales, the number of rows of which is the same in both species. In *flagelliformis* they are more narrow and elongated, resembling the scales of *Dendrophis*; in *flavicularis* they are broader, and many of them distinctly hexagonal. The tail is two and a half inches shorter than in *flagelliformis*, but the body of *flagelliformis* is eight inches longer. Schlegel observes that the serpents belonging to this genus may be considered as holding a middle place between the terrestrial serpents and those which inhabit trees; he describes eight species, none of which belong to the United States. The present species, however, is known to ascend trees with great agility, reaching their summits with ease when attacked.

ELGARIA, Gray.

ELGARIA MARGINATA.

Sp. Char.—Head and upper part of body and tail olive colored; a few minute points along the middle line of the back; nine or ten transverse bars of black along the sides; the posterior margin bordered with white; under surface greenish olive, immaculate.

Dimensions. Length of head $4\frac{3}{4}$ lines; greatest breadth 2 lines; length of neck and body to vent 1 inch; length of tail 1 inch (mutilated:) length of anterior extremities to end of the longest of the five fingers $4\frac{1}{2}$ lines; length of posterior extremities to end of the longest of the five toes $6\frac{1}{4}$ lines.

Habitat. New Mexico.

HOMALOSAURUS, Hallowell.

Gen. Char. Head depressed, covered above with polygonal scales; nostrils superior; occipital plate distinct; temples not swollen; marginal plates of the upper jaw imbricate; upper surface of neck, body, and tail covered with granulations; abdomen and under surface of the tail with smooth quadrangular scales; external openings to the ears; throat folded; femoral pores; tail but little longer than the body; body and extremities slender;

HOMALOSAURUS VENTRALIS.

Sp. Char. Head silvery white, with a tinge of yellow; body above ash-colored, thickly maculated with small white spots irregularly disposed; transverse dark colored bars upon the posterior extremities and base of tail; abdo-

men silvery white, with two longitudinal blue colored blotches having two oblique bars of black running across them; two small blue spots upon the under surface of tail.

Dimensions.—Length of head $7\frac{1}{2}$ lines; length of neck and body to anus 2 inches $2\frac{1}{2}$ lines; of tail in the specimen examined, which appears to have been mutilated and restored, 2 inches 3 lines; body 1 inch 5 lines in circumference; length of arm 6 lines; of fore arm $5\frac{1}{2}$ lines; of hand to extremity of longest nail $7\frac{3}{4}$ lines; of feet to extremity of longest toe 1 inch 2 lines; total length of body 5 inches 1 line.

Habitat. New Mexico.

Remarks. This animal approaches *Crotaphytus*, *Holbrook*, but the nostrils are superior instead of being lateral as in the latter genus. The head of *Crotaphytus* is covered with tubercles, and the occipital plate does not exist, or is small and ill-defined. The forearm is also shorter and much more robust, and the longest fingers are of nearly equal length; in *Homalosaurus* the fourth finger is considerably longer than the third. The temples are much less swollen than in *Crotaphytus*, which has but a single row of plates along the border of the lower jaw. The nostrils in *Holbrookia* are situated as in *Homalosaurus*; and the plates along the margin of both the upper and under jaw have the same configuration and arrangement; the occipital plate also is very distinct, which, as well as most of the plates upon the upper part of the head, is smooth; a considerable number of granulations, however, are observed above the supraciliary ridge at its anterior and posterior part, chiefly in the former position; but in *Holbrookia* there are no external ears, the ear lying immediately beneath the skin, which covers it. Both *Holbrookia* and *Crotaphytus* have femoral pores, but no anal ones, of which also *Crotaphytus* is destitute.

CROTALUS LECONTEI.

Sp. Char. Head quadrangular, broader behind than in front, much flattened above; a few small plates in front; the rest of the upper surface of the head, except over the orbit, covered with scales; a series of about thirty subquadrate brownish blotches along the back, and ten or twelve transverse bands of the same color; brownish bands upon the tail; subquadrate blotches along the back, margined with light yellow; ground color light yellow or straw-color; scales strongly carinated; abdominal scuta 174; sub-caudal 27.

Dimensions. Length of head 14 lines; greatest breadth 11 lines; length of body 2 ft. 9 in. 9 lines; length of tail, exclusive of rattles, 2 inches 6 lines; length 2 ft. 6 inches 5 lines.

Habitat. Cross Timbers.

Remarks. My friend Dr. Le Conte informs me that he found near the Colorado, about seven hundred miles from the last mentioned locality, a species of *Crotalus* which was very abundant in that region, over four feet in length, and which appears to be the same as the one above described. He took the following notes of it upon the spot: "*Crotalus*—cinereous; black with a series of subrhomboidal spots margined with dark brown, and exterior to this a line of white scales; sides with a few darker cinereous spots; beneath pale ochraceous; neck and under part of head white; tail white, with four black rings,* becoming irregular beneath. Length $4\frac{1}{2}$ feet; greatest circumference $5\frac{1}{2}$ inches; 185 transverse scales beneath the body, 28 caudal; fourteen scales in the oblique rows from spine to side in middle and on neck; nine posteriorly and on tail. Colorado, March, 1851." The dorsal spots become indistinct behind. Sandy deserts.

* In a young specimen brought by Dr. Woodhouse these four black rings are very distinct.

PITYOPHIS,* Holbrook.

PITYOPHIS AFFINIS.

Sp. Char. Scales much larger upon the sides than upon the back, where they are comparatively small; a series of brownish or black subquadrate blotches upon the back; a row of much smaller blotches on each side; transverse bands of jet black upon the tail; tail short; abdomen and tail thickly maculated with black; thirty-one rows of carinated scales; abdominal scuta 221; sub-caudal 64.

Dimensions. Length of head 1 inch 2 lines; greatest breadth 8 lines; length of body 2 ft. 5 inches; of tail 5 inches 5 lines; greatest circumference 2 inches $2\frac{1}{2}$ lines.

Another specimen was received of the same species as the above, but which presents a remarkable deviation in the form and arrangement of the plates upon the head, which is no doubt abnormal. Thus there are seven plates upon the head, instead of six, as in Pityophis; these are arranged in three rows two plates in the front, two in the middle and three in the posterior; on each side of the middle row is a small quadrangular plate lying immediately above the loreal, constituting as it were a superior loreal; there is but one large ant-orbital and four posterior orbital on the right side, and three on the left; there are nine superior labials; abdominal scuta 227; sub-caudal 71.

Habitat. New Mexico.

LEPTOPHIS TENITA.

Sp. Char. Head much flattened, olive colored with yellow markings; ground color of body above olive, with two lateral longitudinal yellowish vittæ, extending from the occiput to the tail, each middle scale marked with a longitudinal line of black; two lines of black on each side, passing through the middle of two inferior rows of scales from the occiput to a short distance beyond the tail; abdomen immaculate, except toward the neck, where there are a number of small black spots; abdominal scuta 199; sub-caudal 130; 14 rows of longitudinal smooth scales.

Dimensions. Length of head $9\frac{1}{4}$ lines; greatest breadth 5 lines; length of body 1 ft. 7 in. 5 lines; of tail 9 inches; circumference 1 inch 1 line; total length 2 ft. 5 inches $2\frac{1}{4}$ lines; abdominal scuta 199; sub-caudal 140.

Habitat. New Mexico.

BUFO DORSALIS.

Sp. Char. Above dark brown, with numerous irregular lines of yellow; a vertical line of yellow continuous with one which is less distinct upon the head; transverse blotches of black upon the thighs and fore arms; under surface of the animal ochraceous.

Dimensions. Length of head 8 lines; greatest breadth 9 lines; length of head and body 3 inches; length of arm $8\frac{1}{2}$ lines; of fore arm 7 lines; of hand to extremity of longest finger 10 lines; of leg 14 lines; of tarsus 9 lines; of foot 1 inch four lines to extremity of longest toe.

Habitat. New Mexico.

Remarks. This animal differs widely from the *Bufo cognatus* and *Americanus*, but resembles the *lentiginosus*, which Prof. Holbrook observes is found, without doubt, all along the shores of the Gulf of Mexico. It differs from it, however, in the elevation of the ridges upon the head, which in *lentiginosus* are highly developed, giving to the upper part of the head a canalicated appearance, a condition that does not exist in this species.

The reptiles above described were collected by my friend Dr. Woodhouse, who was attached to the expedition under command of Capt. L. Sitgreaves, of the corps of Topographical Engineers, for the purpose of exploring the

*The genus *Pityophis* is characterized by its projecting snout and the presence of four posterior frontal plates in a transverse row, instead of two, as in the ordinary *Colubers* and *Tropidonotes*. These characters, with its peculiar physiognomy, cause it to be readily recognised by one familiar with our reptiles.

rivers Zuni and Great and Little Colorado of the West. Too much praise could not be awarded to Dr. Woodhouse, for the zeal and intelligent industry he has manifested in the performance of his arduous duties as physician and naturalist to the Expedition.

When the reptiles brought from Oregon and California by Mr. Townsend, and those of the Exploring Expedition, shall have been carefully studied, much will have been done toward the attainment of a knowledge of the geographical distribution of our reptiles, to which the admirable work of Prof. Holbrook has so greatly contributed. To him we owe nearly all the knowledge we possess with certainty of North American Herpetology, having brought into order and system what was before uncertain and confused, and in clear and classical language determined their characters with precision; thus greatly facilitating the labors of all future inquirers.

ANOTA, Hallowell.

Gen. Char. Head small, covered above with polygonal plates; a row of pointed spines posteriorly; nostrils within the supraciliary ridge: supraciliary ridge but slightly developed, terminating posteriorly in a small pointed spine; chin covered with smooth granulations of unequal size; a row of pointed scales on each side; two gular folds; *no external openings for the ears*; extremities slender; upper surface of body smooth, the numerous pointed species of the ordinary Phrynosomas not existing; no fringe along the lateral margins of the abdomen; body compressed, oval, tail nearly as long as the body; femoral pores very distinct.

ANOTA M'CALLII.

Sp. Char. Margin of upper jaw denticulated posteriorly; the two posterior of the rows of spines along the margin of the under jaw small; the two anterior to these quite large; the two middle spines of the row upon the occiput much longer than the rest, and incurvated; intermediate spine very small; body light ash color above, with a narrow dorsal line of black extending from the occiput to the root of the tail; two oblong dark colored blotches upon each side of the neck; two rows on each side of the dorsal line, of dark colored subcircular spots, two in a row, the external larger than the internal; ground color of upper surface of tail and extremities same as that of the upper surface of the body; under surface of body and extremities silvery white, immaculate; twenty distinct femoral pores on each side.

Dimensions. Length of head 7 lines; greatest breadth, exclusive of spines, 8 lines; length of longest spine $5\frac{1}{4}$ lines; of the next to it $2\frac{1}{2}$; length of arm 7 lines; of fore arm 5 lines; of hand, to extremity of longest finger, 6 lines; length of thigh 7 lines; of tibia 7 lines; of foot to extremity of longest toe, $7\frac{1}{2}$ lines; length of neck and body to vent 2 inches $4\frac{1}{2}$ lines; length of tail 1 inch $8\frac{1}{2}$ lines; total length 4 inches 5 lines.

Habitat. Great Desert of the Colorado, between Vallicita and Camp Yuma, about 160 miles east of San Diego.

Remarks. The animal above described is a Phrynosoma, the ears of which are concealed by the integument. It was caught by Col. George A. M'Call, of the United States Army, during a recent journey through California and Oregon, and presented by him to the Academy, with two young specimens of Phrynosoma coronatum. The great length of its middle posterior spines, its contracted neck and singularly shaped body and tail, give to it a very odd appearance, differing remarkably from that of any of the known Phrynosomata.

Descriptions of New Species of Reptiles from Oregon.

By EDWARD HALLOWELL, M. D.

TROPIDONOTUS CONCINNUS.

Sp. Char. Head slightly swollen at the temples, depressed; canthus rostralis grooved; a longitudinal yellow line running along the median line of the back, including one entire row and one half of each of the adjoining rows of